

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application:

Listing of Claims:

- 1.-4. (Canceled)
5. (Currently amended) A method for preparing a microarray having a hydrophobic barrier defining a plurality of subarrays on the microarray, the microarray constructed by a light-directed maskless array synthesizer instrument, the method comprising the steps of:
 - a) selecting at least one probe set comprising probes of interest;
 - b) synthesizing the probe sets selected in step a) on a microarray slide to provide the plurality of subarrays using the light-directed maskless array synthesizer instrument;
 - c) depositing between each of the subarrays synthesized in step b) a hydrophobic group-bearing phosphoramidite to provide a hydrophobic barrier which surrounds each subarray, wherein the deposit of the hydrophobic barrier is made by using the same light-directed maskless array synthesizer instrument used in step b); and
 - d) inhibiting fluid communication between each of the subarrays on the microarray.
6. (Original) The method of Claim 5 wherein hydrophobic barrier is synthesized using a hydrophobic group-bearing phosphoramidite.
7. (Original) The method of Claim 6 wherein the phosphoramidite is a trityl protected phosphoramidite.
8. (Cancelled)

9. (Currently amended) A method for preparing a microarray having a hydrophobic barrier defining a plurality of subarrays on the microarray, wherein a substrate containing the microarray is held in the identical position by a light-directed maskless array synthesizer instrument throughout the method, the method comprising the steps of:

- a) selecting at least one probe set comprising probes of interest;
- b) synthesizing the probe sets selected in step a) on a microarray slide using the light-directed maskless array synthesizer instrument to provide the plurality of subarrays; and
- c) depositing between each of the subarrays synthesized in step b) a hydrophobic group-bearing phosphoramidite to provide a hydrophobic barrier which surrounds each subarray, wherein the deposit of the hydrophobic barrier is made by using the same light-directed maskless array synthesizer instrument used to synthesize the probe sets of step b), and wherein the substrate containing the microarray is held in the identical position by the instrument throughout each step of the method.

10. (Previously presented) The method of Claim 9 wherein hydrophobic barrier is synthesized using a hydrophobic group-bearing phosphoramidite.

11. (Previously presented) The method of Claim 10 wherein the phosphoramidite is a trityl protected phosphoramidite.